

Section entitled, 'DETAILED DESCRIPTION OF THE INVENTION'. Replace with the following new section:

i. Introduction

This invention provides a system that enables simple but rich navigation of interactive narratives. It enables an ease of use significantly better than any prior art. Its mechanism is truly unique and beneficial in its field. With the invention, one or more people can participate in an interactive: motion picture, television or audio program, live theater, or a computer-based or computer-generated story. It lets participants determine the course of a narrative. Players are able to explore the events of a story (in the form of motion picture images, television images, live theater, audio, computer-based images, or computer-generated images) with greater control and less confusion than ever before.

ii. Purpose

The purpose and use of this invention sits squarely in the field of entertainment. It is a mechanism which opens up narratives for exploration at the cause and effect level of a story's sequence of events. The invention can be implemented by any device or performer that 1.) transmits a narrative and 2.) accepts input that controls its transmission.

The invention also overlaps the fields of education, simulation, counseling, and therapy, similar to how regular storytelling overlaps them, but the invention offers unique benefits for those fields.

iii. Comments on Style

The description will show, in sections, how to use the claims and prior art to create this invention. Since interactive narratives are largely artistic endeavors,

a great range of variations must be allowed. However, all implementations will use a significant portion of the claims. Claim 23 is essential. Some of the claims are considered fundamental to the invention, and others will be optional.

Each claim will be discussed as to its merits over previous methods.

Each step will be demonstrated by an example. All of the examples will be taken from a hypothetical implementation of the story of Little Red Riding Hood.

### 1. Breaking a Story Down into Nouns.

For the purpose of this invention, we define a story as a sequence of events. We define an event as a continuous period of activity, involving a single or multiple characters, reacting to a specified noun. The invention allows for additional storytelling, presented between events for continuity. For the remainder of this section, we will use the terms elements and story elements to refer to these nouns.

As per claim 23.c., developers should identify elements (nouns) that advance their game's story. Developers should create distinct symbols, labels, phrases, or other identifiers for each element. A player will use these elements to control the narrative. Compared to prior art, the introduction of nouns is a powerful tool for advancing a story and affecting the characters within it. No other prior art device uses the introduction of nouns to trigger events as the primary control system for advancing an interactive narrative. Introducing elements is fundamental to this invention.

For example, if we examine the tale of Little Red Riding Hood, we identify the following story elements:

Mother at Home

Little Red Riding Hood

Berries in the Forest

The Wolf

Grandma's House

Grandma

The Woodsman

These nouns are the primary building blocks of the story of Little Red Riding Hood. The invention uses them to trigger events which progress the narrative. Note that we will not make available, Mother at Home, in any of the lists presented. She is only used to begin the story. Not all elements of a game's story need to be used to control that game. But it's worthwhile to identify every noun that could potentially be used to control a game.

## 2. Introducing the Narrative to the Player.

Nearly always, a narrative begins by presenting the environment and the initial characters and their situation. It is typically presented without interaction, as are the introductory sequences of prior art. By beginning each game the same way, players can be certain that they are starting at the beginning. This provides a comfortable foundation for their explorations. As per claim 23.a., the simulated environment and (as per claim 23.b.) the first simulated characters are typically introduced here as well. These two pieces of claim 23 are common to prior art, and are necessary for every branching narrative.

In our example, when the game begins, the player is presented with a scene where the mother sends her daughter into the woods to visit her grandma.

### 3. Using Settings to Constrain Combinatorial Explosion

Every successful branching narrative must cope with the problem of combinatorial explosion. Combinatorial explosion in this invention would result when there are so many different ways to order the introduction of story elements, developing all of the resulting events would prove too expensive. Therefore, one of the invention's mechanisms must let designers limit the combinations of element introductions. This allows cost effective development. Fortunately, narrative structure provides many natural and effective means to constrain the number of resulting events. They are scenes, locales, chapters, acts, or settings. This document uses the term `setting` for these structures.

As per claim 25, the invention uses settings to limit the events that can happen during those segments of the narrative. For a given setting, the developer, or the simulation itself, decides which set of elements will be available to the player during that setting. The use of settings to limit elements available in a narrative is unique to this invention. Although, not required for this invention, settings will be used frequently for limiting the combinatorial explosion of potential results.

There are two settings in the tale of Little Red Riding Hood, `The Forest` and `Grandma's House`. In our example, some nouns will be allowed only in the Forest. Other nouns are allowed only in Grandma's House, and some nouns will be available in both settings.

Forest

berries

wolf

woodsman

grandma's house

Grandma's House

wolf

grandma

woodsman

In this example, the nouns available in each setting have been predetermined, as per claim 24.

#### 4. Simulating the Characters.

The construction of this invention requires goal driven simulations of the main character or main characters. This document does not describe how to implement a character simulation since that is considered prior art. Here we describe using such a simulation in a manner unique to this invention, as per claim 23.b.

It's a lot of fun to play with a puppet dancing to strings on your fingers. It makes players feel powerful and in control. It's even more fun to have a pet that plays with the things you give it. Unlike current adventure games, with this invention, players do not directly control the character's steps or actions. Players influence the actions of the character by introducing nouns into a setting which trigger events significant to the story.

With this invention, whenever an event is triggered, enacted, and resolved, the simulated characters can change. Their emotions, goals, physicality, and personality can all change as a result of an event. This supports a narrative's common practice of revealing how a character changes during a story. In implementations of this invention, simulated characters should directly reflect their changes. In order to do that, this invention requires two capabilities from the simulations' implementation.

4.a. The character simulation must provide feedback about physical and emotional states. Exactly which types of states depend upon the story being told. (Detailed in section 5, below.)

4.b. Every character in the simulation must maintain a goal. They must be trying to accomplish that goal, perhaps with occasional, character oriented sidetracks. The player should be informed of that goal.

In our example, Little Red Riding Hood is implemented as a self motivated, simulated personality that acts like a little girl. By design, she will automatically seek to accomplish a goal.

example of 4.a. She shows her emotional states by what she says, by her animations, and by visual meters that indicate internal states..

example 4.b. When Little Red Riding Hood is trying to get to grandma's house she will be walking in the forest in a specific direction. To demonstrate her character's youthful

nature, she occasionally chases a butterfly but resumes walking towards her goal immediately thereafter.

## 5. Generating a List of Elements

This section describes the heart of this invention. To recap the previous sections: The player has been introduced to a situation and its world, and she or he is watching simulated characters acting within a setting. Now it is time for the player to influence the story. As per claim 23.d., the player will be given a list of story elements they can use to branch the narrative. Introducing these nouns into the simulation generates events which advance the story. Noun operated branching of a narrative is unique to this invention. It is fundamental to this invention.

How a list of elements is generated is important. As per claim 24, the invention provides two methods for generating the list. The list could be pre-generated, as provided in our Little Red Riding Hood example. The list could also be generated programatically, based upon the narrative state. A device that determines the list at the time of presenting the list is programatically generating the list. A performer who determined the list during his or her performance would be `winging it`. Automatically generated lists should be based upon the current situation and directions the story might head. One method might prune an exhaustive, predetermined list. A very sophisticated storytelling engine might create new characters, objects, activities, and/or places to present as event triggers.

Controlling the list of events during the narrative is an essential aspect of the invention. One method of constraining combinatorial explosion, the setting,

has already been described. List construction is another tool for limiting permutations of story branches and therefore, development costs.

At the beginning of Little Red Riding Hood, she walks cautiously through the forest. The list generated for the player's consideration consists of:

wolf

woodsman

berries

In this example, the 'Grandma's House' element is pruned from the pre-generated list. This forces the player to pick some other kind of encounter before Little Red Riding Hood reaches Grandma's house. Consider it a primitive example of a programatically generated list. In other words, the list changes depending upon whether or not the player has already invoked an event.

#### 6. Displaying the Noun List and Responding to the Player's Selection.

Once the list of nouns has been generated, the apparatus either interrupts the player with the list or waits for the player to request the list. As per claim 23.e., the player simply selects a noun from the list to use the invention. While the effort of selecting an element is trivial, determining the noun that results in the most desirable outcome can be quite challenging. Players will quickly figure out how they want the story to progress. They will enjoy discovering how each element influences the story.

Choosing an noun which triggers a desired event is rewarding. Choosing an noun that produces an undesirable event is the penalty for not understanding



the character or situation. The player is motivated to explore his options. An event's immediate enactment, after choosing an element, is more exciting than wandering around (often lost in) the large landscapes typical of prior art adventure games.

This invention creates experiences where an audience can easily explore the full richness of an interactive story and the characters within. The best implementations will supply, in their display of nouns, clues to an event's resolution. By observing the character's feedback, the user will begin to anticipate how that character will react to certain stimuli. However, interesting surprises could always be a lurking possibility.

The invention provides powerful tools to modify the simulation and advance the narrative. The tools are nouns introduced into a story which cause characters to react, interact, and change. As per claim 23.h, the outcome of every event potentially modifies: characters, objects, the environment, and the situation.

This invention supports game play where the sequence of events changes, as per claim 23.g. If a narrative's events occur in one sequence, then the story's outcome is one experience. Different sequences of noun choices could produce different events. By offering players a set of tools in the form of nouns, they can create the experience that pleases them most.

In the example, a noun list will be offered after each event resolves. The list appropriate for the current situation is displayed. From the list players would

make their selection. Below are the example's elements with a brief description of their enactment.

If the Little Red Riding Hood is in the Forest setting, the list contains:

wolf:

if she is afraid: she runs away.

if warned: she fools the wolf by claiming the woodsman has broken his ax.

otherwise: the wolf sweet talks her and learns grandma is alone.

woodsman:

warns her about wolves.

berries:

she goes on a berry hunt that makes her less afraid.

(Player participates during event. )

grandma's house:

if the wolf is fooled: show wolf's demise and end story.

otherwise: plays a static scene of arriving at the house and entering it.

If Little Red Riding Hood is in the Grandma's House setting, then this is the list:

wolf:

she discovers wolf in grandma's clothing and is chased around the house.

woodsman,

if wolf is chasing her: he dispatches the wolf.

otherwise: he congratulates her on arriving safely and doesn't return.

grandma:

she is surprised by the wolf and is eaten. End story.

## 7. Resolving an Event.

Once an element is introduced, the event it triggers must then be enacted, as per claim 23.f. How an event plays out is decided by the developer. Respecting this invention's definition of an event, the playing or resolution of it should advance the story significantly. A person or creature is met and engaged. An item or sight or sound or idea meaningful to the plot is found, pondered, or otherwise reacted to. Perhaps a trial is encountered which must be overcome. Also, unremarkable actions or happenstance's might be useful as adornments or for stylistic flavor. Unremarkable events should be enacted sparingly if enacted at all. By virtue of introducing an element, the narrative is usually advanced.

The most important feature of this invention is that an event should change something in the narrative. What might change includes: the characters, the environment, the list of elements available, and/or other aspects of the story.

An event doesn't have to change the narrative, but most events should. They keep the player's experience interesting. In prior art adventure games, it was very difficult to change the nature of a character. Players were given absolute control over the character's actions. With this invention, characters will be able to react more like characters in a story. Therefore the invention is able to tell stories better than prior art.

In our Little Red Riding Hood example, if the main character is still in the Forest, and the player introduces the `berries` element, the game would proceed to move Little Red Riding Hood until she reaches a patch of berries in the forest. Since the important part of event resolution is the changes it bestows upon the narrative, we should define an initial situation for Little Red Riding Hood. Let's say that upon leaving home, by herself for the first time, she begins the story very afraid of the forest. Her face and actions indicates this fear. When she encounters a patch of berries, she remembers that the forest can also harbor nice things. Nice thoughts soften fears. So, upon picking some berries she begins to feel a little less afraid. As a result, two things have changed in the narrative. First, she now has a nice basket of berries to give to her grandma, and second, Little Red Riding Hood feels less afraid. Perhaps her fear is lessened to the point where, when the wolf encounter is enacted, the girl listens to the wolf instead of running away.

Additionally, while the game is waiting for the user to make a choice, or the last choice failed to advance the story, continuity must be maintained. The environment and characters should continue to be presented, acting accordingly to the current context, as per claim 27. This is not very obvious, due to the step-wise method inherent to the invention.

## 8. Allowing Other Interactions

Game designers should consider the amount of interactivity a player is allowed during event enactment, as per claim 26. It has been mentioned previously, that in a fight situation, the player might be allowed to control a character's actions during the fight. Many times, in prior art adventure games,

allowing full, player control over the actions of the characters proved very useful and fun, and this would be a lesser invention if it did not allow absolute player control in useful and fun situations. Therefore, within the event itself, sometimes it is best to let the player completely control the actions of the character. However, only the final resolution of the event should affect story. Interactions during the event should not affect the character's personality, goals, or the situation.

There is a fine point to be made here. Although the outcome of an interactive event could be determined by the player's actions, only the final result of the event should affect the story. A player might win or lose a fight a dozen different ways, but only the final result, the win or loss, should affect the story. The methods employed to gain the end of the event do not have to, and probably should not, affect the story. If it did, it would create another opportunity for a combinatorial explosion of outcomes.

An interactive story of Little Red Riding Hood might contain a simple game when she encounters berries. The event specific game might be a hunt for enough berries to fill her basket. Once the basket is full, event resolution concludes and the narrative resumes. These extra interactions improve the player's enjoyment, drawing them closer to the story by involving them in the character's experiences.

## A. Summary

This detailed description has explained how to use the claims of this invention to create a branching narrative. It has demonstrated how the claims are unique and has discussed their advantages over previous methods. It has provided a complete example of implementation.

Begin with a narrative that can be described as discrete events which occur in a story's characters. Define settings to limit event branches. Determine which story elements (nouns) will trigger the events in each setting. Build simulated characters which react to the nouns according to each character's nature. Allow players to choose the order in which nouns are introduced into the game. Provide feedback about characters and the situation players can consider for later noun choices. Move from setting to setting as the narrative allows. Let the simulated characters and environment act between events for continuity. Allow users to interact in other ways, during event resolution, to add depth to the gameplay. Let users rewind the narrative, and let them explore alternate event sequences.

The example of Little Red Riding Hood has illustrated a potential implementation of this invention's claims. It has also indicated the depth possible in a branching narrative, even for a story as simple as a children's fable.